

1 IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
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IN AND FOR THE COUNTY OF KING

4 STATE OF WASHINGTON,)
5 vs.) No. 10-1-09274-5 SEA
6 EMANUEL DEMELVIN FAIR,) **TESTIMONY OF**
7 Defendant.) **NATHANIEL ADAMS**
8

9 VERBATIM TRANSCRIPT OF PROCEEDINGS
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11 Heard before the Honorable Judge Mariane C. Spearman, at King
12 County Courthouse, 516 Third Avenue, Room W-863, Seattle,
13 Washington

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15 APPEARANCES:

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17 BRIAN McDONALD and ERIN EHLERT, representing the State;
18 BEN GOLDSMITH and PAUL VERNON, representing the Defendant.
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24 DATE: September 21, 2016
25 REPORTED BY: Joanne Leatiota, RMR, CRR, CCP

1 So you know the input, you put it into the system,
2 you get an output, you don't see what happens in the
3 middle. It's very results oriented. Understanding the
4 procedures inside, you might have a general description
5 or a general intuition about them, but you do not know
6 the particulars, or at least you don't test for them.

7 White box or glass box testing is a transparent form
8 of testing which is very conducive towards procedural
9 testing to ensure that you have the appropriate
10 procedures in place, as opposed to desiring or
11 expecting an expected outcome.

12 Q. So are there strengths and weaknesses associated with
13 those two types of testing, white box or glass box
14 versus black box?

15 A. They both have their benefits. White box testing can
16 be more time intensive, but if you don't ultimately
17 know the answer that you're looking for to ensure that
18 the process has been implemented correctly is very
19 important and can only be addressed -- well, cannot be
20 addressed by a black box test. So naturally a white
21 box test is indicated in that occasion.

22 However, a black box test can be more cost-effective
23 because you have pairs of inputs and outputs that you
24 can test the system with to ensure that it operates
25 correctly.

1 Q. Now, when we talked about the materials you reviewed,
2 you indicated that you had reviewed some of the studies
3 that Dr. Perlin had published?

4 A. Yes.

5 Q. And do you have the mathematical qualifications to
6 understand everything in those studies?

7 A. I don't have an advanced degree in mathematics.

8 Q. In terms of characterizing those studies as either, you
9 know, white box testing, black box testing or neither,
10 could you describe where those studies fit in?

11 A. I think there's a bit of a disparity between many of
12 the conversations I have and some of the other
13 conversations in this field. There are concerns about
14 experimental design, a scientific experiment. This
15 experimental design is generally, in my experience,
16 what the scientists who develop the existing guidelines
17 and standards and conduct the studies that are prolific
18 in our field.

19 On the other hand, the development of a product is a
20 little more in the field of engineering as opposed to a
21 scientific experimental design. And while we share
22 many terms of art, and it can get quite confusing when
23 one party is discussing something while considering an
24 experimental design as opposed to an engineered
25 product.

1 Q. So where does -- where sort of in the spectrum of a
2 white box test where you know everything that's kind of
3 going on in the system to a black box test where you
4 put in an input and you get an output, where kind of on
5 that spectrum, if at all, would you put the studies
6 that Dr. Perlin published about TrueAllele?

7 A. I wouldn't consider them to be software validations, if
8 that's what you're asking, or testing in accordance
9 with white box or black box principles.

10 Q. Okay. So it's really neither?

11 A. They are not software tests from an engineering
12 perspective.

13 Q. Okay. Now, are you aware of whether -- aside from the
14 studies that Dr. Perlin has published, what, if any,
15 software testing has been done of TrueAllele?

16 A. The studies -- and again, this is the terms of art.
17 There's a specific definition that I believe I included
18 in my statement for software testing, validation,
19 verification as used in software engineering, and there
20 is also the concept of validation studies in the field
21 of forensic DNA analysis.

22 And the studies that have been published on
23 probabilistic genotyping in general, not just specific
24 to Dr. Perlin, have tended to be more along the lines
25 of validating from a perspective of a scientist as

1 objection. It's already been submitted to the Court as
2 well. We're going to have a lot of duplication between
3 the appendixes that you've received and the exhibits in
4 this hearing.

5 THE COURT: What about the change logs, 13 and 14?

6 MR. McDONALD: No objection.

7 THE COURT: For the purposes of this hearing only,
8 we will go ahead and admit 12, 13, 14 and 15.

9 (Defendant's Pretrial Exhibits 12-15 admitted.)

10 MR. GOLDSMITH: Thank you, your Honor.

11 THE COURT: Recess time till five to 11:00.

12 (Morning recess was taken.)

13 | CROSS-EXAMINATION

14 BY MR. McDONALD:

15 Q. Good morning, Mr. Adams.

16 A. Good morning.

17 Q. We talked over the phone about six weeks ago; is that
18 right?

19 A. That sounds right.

20 Q. I want to talk to you a little bit about your
21 background. My understanding is you got your
22 bachelor's in science -- in computer science
23 Wright State two years ago; is that right?

24 A. 2014, yes.

25 Q. And you have been working on your master's now for a

1 couple years, and I think when we talked last, you were
2 hoping to get it by the end of this year; is that
3 right?

4 A. Correct.

5 Q. Now, you told us you had taken one class in statistics
6 in college; is that right?

7 A. One class specifically on statistics.

8 Q. It was called statistics for engineers; is that right?

9 A. That's a good working title.

10 Q. You didn't take any classes in forensics. Is that fair
11 to say?

12 A. Correct.

13 Q. And while you were in college is when you started your
14 first, I guess, real job involving computer science,
15 and that was working for Dr. Krane's company. It's
16 Forensic Bioinformatics; is that correct?

17 A. I don't know that it was my first real job, but...

18 Q. I believe you said in computer science. Is that fair
19 to say?

20 A. So I've worked as a programmer before, but certainly
21 the more advanced topics of theory and computer
22 science, then sure.

23 Q. So any job you did even before then was prior to -- or
24 while you were even earlier in college; is that right?

25 A. I worked in high school. As early as that.

1 Q. While you were in college, you were employed by
2 Dr. Krane's company. Is that fair to say?

3 A. Correct.

4 Q. And you started out as an intern there?

5 A. Effectively, yes.

6 Q. And then you moved up to a paying position; is that
7 right?

8 A. I was paid the whole time, but...

9 Q. As an intern even?

10 A. Correct.

11 Q. And that's the only -- only job you have had since
12 graduating from college; is that right?

13 A. Since graduating from college, yes.

14 Q. Now, Dr. Krane's company primarily provides services to
15 attorneys. Is that fair to say?

16 A. Yes.

17 Q. And it primarily provides services to defense
18 attorneys?

19 A. Yes.

20 Q. And it's for DNA consulting services. Is that a fair
21 characterization?

22 A. Yes.

23 Q. Defense attorneys, who have DNA evidence in their case,
24 send them information that they have, maybe even the
25 data, and they get to consult with Dr. Krane and maybe

1 you about what those -- what that evidence is. Is that
2 fair to say?

3 A. That's part of our business, yes.

4 Q. And Dr. Krane's been doing this long before you ever
5 joined the company, for about 20 years. Were you aware
6 of that?

7 A. Yeah, I think the early '90s.

8 Q. Or even longer than 20 years. And he primarily works
9 for defense attorneys?

10 A. That's my understanding.

11 Q. Well, since you have been there for the last two years.
12 Is that true?

13 A. Exclusively defense attorneys since I've been there.

14 Q. And you have not worked for like a high tech or
15 software company, have you?

16 A. I've worked for technology companies before.

17 Q. Which ones?

18 A. I worked for VarTech doing computer administration,
19 server maintenance, workstation installation.

20 Q. When did you do that?

21 A. I did that after high school and when I was in college
22 as well.

23 Q. What does VarTech do?

24 A. I don't know what they do now, but they did service
25 contracts for the maintenance and installation of

1 computer systems for schools and businesses.

2 Q. Since getting your BS in computer science, have you
3 done any work for any high tech or software company?

4 A. Nothing paid, no.

5 Q. And how about for any -- I mean, you have only worked,
6 fair to say, for Dr. Krane's company since graduation?

7 A. Correct.

8 Q. So when -- there were a lot of questions asking for in
9 your experience, about the industry. We heard terms
10 like that. That's based on your experience working for
11 Dr. Krane's company and maybe what you read and have
12 researched on your own?

13 A. Yes.

14 Q. So you haven't, you know, what you -- the account of
15 what happened with NASA, that's something you read
16 about. You didn't work on that. Is that fair to say?

17 A. Correct.

18 Q. You don't develop software for a company and then -- or
19 do review of software for anything other than
20 Dr. Krane's company. Is that fair to say?

21 A. Correct.

22 Q. You have never published anything in a forensic
23 journal?

24 A. Nothing in a peer-reviewed journal.

25 Q. Or scientific journal, for that matter?

1 A. Nothing peer reviewed.

2 Q. I think you mentioned presenting at CLEs. Were those

3 CLEs for lawyers?

4 A. Yes.

5 Q. Is that for defense attorneys?

6 A. Some of them, I believe, are exclusively defense

7 attorneys. Others are open.

8 Q. Now, with respect to probabilistic genotyping, is it

9 fair to say that field involves a number of different

10 disciplines?

11 A. Very fair to say.

12 Q. Like statistics, for example, that's a pretty

13 significant part of probabilistic genotyping?

14 A. Yes.

15 Q. How about math?

16 A. Yes.

17 Q. Biology?

18 A. Correct.

19 Q. And then computer science, which is what your degree is

20 in?

21 A. Sure.

22 Q. Now, did they have probabilistic genotyping cases --

23 classes at Wright State?

24 A. I'm not aware of any classes anywhere for it.

25 Q. Is it fair to say you're self-taught on that issue?

1 A. It's fair to say that everyone is self-taught on that
2 issue.

3 Q. Well, you attended a workshop in St. Louis; is that
4 right?

5 A. Yes.

6 Q. And then you watched some webinars. Is that fair to
7 say?

8 A. I have.

9 Q. When you say everyone must be self-taught, do you
10 suggest that people with significant backgrounds in
11 statistics have self-taught them probabilistic
12 genotyping principles?

13 A. The leaders in the field or the ones who created
14 probabilistic genotyping?

15 Q. Various disciplines, right? Statistics, biology, math,
16 right? Is that correct?

17 A. Yes.

18 Q. And those are things that people got educated about and
19 then applied those disciplines to this area. Is that
20 fair to say?

21 A. The only person I know with formal education in two or
22 more of these fields is Dr. Perlin.

23 Q. What do you know of his education?

24 A. I understand he has Ph.D.s in math and computer
25 science.